

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Original): A vial access adapter-vial assembly allowing for withdrawal of a medicinal fluid contained in the vial without inverting the vial, comprising:

- (a) a vial having a medical fluid therein; and
- (b) a vial access adapter body;

wherein said vial comprises:

a cylindrical side wall having a distal end and a proximal end, said distal end extending into a constricted neck portion terminating in a rim and defining an open fluid port, and said proximal end being closed by a flat outside bottom portion, and V-shaped inside bottom portion;

said fluid port being closed by an elastomeric stopper wherein said vial access adapter body comprises:

a cylindrical side wall having a distal end and a proximal end terminating in a rim;

a flat, horizontal top wall, closing the distal end of the cylindrical side wall;

an externally threaded female luer connector projecting vertically above the horizontal top wall for receiving an internally threaded male luer connector of a syringe or cartridge;

an elongated spike having a fluid flow channel therein, and being integral with said female luer connector, extending into said vial and reaching the V-shaped bottom portion thereof to allow withdrawal of essentially all the medical fluid from the vial when said vial is in the right-side-up position; and

a removable luer cap hermetically sealing the female luer connector.

Claim 2 (Original): The vial access adapter-vial assembly of claim 1 wherein said vial is of glass or a polymeric material.

Claim 3 (Original): The vial access adapter-vial assembly of claim 1 wherein said vial access adapter is made of a thermoplastic material.

Claim 4 (Currently amended): The vial access adapter-vial assembly of claim 1 wherein said V-shaped inside bottom portion having a side wall with an ~~angel~~ angle of more than 90° and less than 180°.

Claim 5 (Original): The vial access adapter-vial assembly of claim 4 wherein said V-shaped inside bottom portion having a side wall with an angle of more than 100° and less than 170°.

Claim 6 (Original): The vial access adapter-vial assembly of claim 4 wherein the inside wall of the V-shaped bottom portion terminates at the center portion of said vial.

Claim 7 (Currently amended): A vial access adapter-vial assembly allowing withdrawal of a nuclear drug contained in the vial without inverting the vial, comprising:

- (a) a vial having a nuclear drug therein; and
- (b) a vial access adapter body;

wherein said vial comprises:

a cylindrical side wall having a distal end and a proximal end, said distal end extending into a constricted neck portion terminating in a rim and defining an open fluid port, and said proximal end being closed by a flat outside bottom portion and a V-shaped inside bottom portion; said fluid port being closed by an elastomeric stopper;

wherein said vial access adapter body comprises:

- a cylindrical wall having a distal end and a proximal end terminating in a rim;
- a flat, horizontal top wall closing the distal end of the cylindrical side wall;

an externally threaded female luer connector projecting vertically above the horizontal top wall for receiving an internally threaded male luer connector of a syringe or cartridge;

~~any~~ an elongated spike having a fluid flow channel therein, and being integral with said female luer connector, extending into said vial and reaching the V-shaped bottom portion thereof to allow withdrawal of essentially all the nuclear drug from the vial when said vial is in the right-side-up position;

a removable luer cap hermetically sealing the female luer connector; wherein said vial access adapter-vial assembly is enshrouded in a protective cover.

Claim 8 (Original): The vial access adapter-vial assembly of claim 7 wherein said vial is of glass or a polymeric material.

Claim 9 (Original): The vial access adapter-vial assembly of claim 7 wherein said vial access adapter is made of a thermoplastic material.

Claim 10 (Original): The vial access adapter-vial assembly of claim 7 wherein said V-shaped inside bottom portion having a side wall with an angle of more than 90° and less than 180°.

Claim 11 (Original): The vial access adapter-vial assembly of claim 10 wherein said V-shaped inside bottom portion having a side wall with an angle of from about 100° to about 170°.

Claim 12 (Original): The vial access adapter-vial assembly of claim 10 wherein the inside wall of the V-shaped bottom portion terminates at the center portion of said vial.

Claim 13 (Original): The vial access adapter-vial assembly of claim 7 wherein said protective cover is made of lead.

Claim 14 (Original): The vial access adapter-vial assembly of claim 7 of wherein said protective cover is made of an alloy comprising lead.

Claim 15 (Original): The vial access adapter-vial assembly of claim 7 wherein said nuclear drug is a diagnostic agent.

Claim 16 (Currently amended): A vial access adapter-vial assembly allowing withdrawal of a medical fluid contained in the vial without inverting the vial comprising:

- (a) a vial having a medical fluid therein; and
- (b) a vial access adapter body;

wherein said vial comprises:

a cylindrical side wall having a distal end and a proximal end, said distal end extending into a constricted neck portion terminating in a rim and defining an open fluid port, and said proximal end being closed by a flat outside bottom portion and a V-shaped inside bottom portion; said fluid port being closed by an elastomeric stopper;

wherein said vial access adapter body comprises:

- a cylindrical wall having a distal end and a proximal end terminating in a rim;
- a flat, horizontal top wall closing the distal end of the cylindrical side wall and

having vent holes therein:

a horizontal second wall parallel to said horizontal top wall and spaced therefrom, said horizontal top wall, second wall and cylindrical side wall enclosing a chamber designed to hold a filter therein;

an antibacterial filter contained in said chamber;

an externally threaded female luer connector projecting vertically above the horizontal top wall for receiving an internally threaded male luer connector of a syringe or cartridge;

~~any~~ an elongated spike having a fluid flow channel therein, and being integral with said female luer connector, extending into said vial and reaching the V-shaped

bottom portion thereof to allow withdrawal of essentially all the medical fluid from the vial when said vial is in the right-side-up position; and
a removable luer cap hermetically sealing the female luer connector.

Claim 17 (Original): The vial access adapter-vial assembly of claim 16 wherein said vial is of glass or a polymeric material.

Claim 18 (Original): The vial access adapter-vial assembly of claim 16 wherein said vial access adapter is made of a thermoplastic material.

Claim 19 (Original): The vial access adapter-vial assembly of claim 16 wherein said V-shaped inside bottom portion having a side wall with an angle of more than 90° and less than 180°.

Claim 20 (Original): The vial access adapter-vial assembly of claim 19 wherein said V-shaped inside bottom portion having a side wall with an angle of from about 100° to about 170°.

Claim 21 (Original): The vial access adapter-vial assembly of claim 19 wherein the inside wall of the V-shaped bottom portion terminates at the center portion of said vial.

Claim 22 (Currently amended): A vial access adapter-vial assembly allowing withdrawal of a nuclear drug contained in the vial without inverting the vial comprising:

- (a) a vial having a nuclear drug therein; and
- (b) a vial access adapter body;

wherein said vial comprises:

a cylindrical side wall having a distal end and a proximal end, said distal end extending into a constricted neck portion terminating in a rim and defining an open fluid

port, and said proximal end being closed by a flat outside bottom portion and a V-shaped inside bottom portion; said fluid port being closed by an elastomeric stopper;

wherein said vial access adapter body comprises:

- a cylindrical wall having a distal end and a proximal end terminating in a rim;

- a flat, horizontal top wall closing the distal end of the cylindrical side wall and having vent holes therein:

- a horizontal second wall parallel to said horizontal top wall and spaced therefrom, said horizontal top wall, second wall and cylindrical side wall enclosing a chamber designed to hold a filter therein;

- an antibacterial filter contained in said chamber;

- an externally threaded female luer connector projecting vertically above the horizontal top wall for receiving an internally threaded male luer connector of a syringe or cartridge;

- ~~any~~ an elongated spike having a fluid flow channel therein, and being integral with said female luer connector, extending into said vial and reaching the V-shaped bottom portion thereof to allow withdrawal of essentially all the medical fluid from the vial when said vial is in the right-side-up position; and

- a removable luer cap hermetically sealing the female luer connector.

Claim 23 (Original): The vial access adapter-vial assembly of claim 22 wherein said vial is of glass or a polymeric material.

Claim 24 (Original): The vial access adapter-vial assembly of claim 22 wherein said vial access adapter is made of a thermoplastic material.

Claim 25 (Original): The vial access adapter-vial assembly of claim 22 wherein said V-shaped inside bottom portion having a side wall with an angle of more than 90° and less than 180°.

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Claim 26 (Original): The vial access adapter-vial assembly of claim 25 wherein said V-shaped inside bottom portion having a side wall with an angle of from about 100° to about 170°.

Claim 27 (Original): The vial access adapter-vial assembly of claim 25 wherein the inside wall of the V-shaped bottom portion terminates at the center portion of said vial.

Claim 28 (Canceled)

Claim 29 (Canceled)

Claim 30 (Original): The vial access adapter-vial assembly of claim 22 wherein said nuclear drug is a diagnostic agent.

Claim 31 (New): The vial access adapter-vial assembly of claim 22 further comprising a protective container encapsulating the vial access adapter-vial assembly.

Claim 32 (New): The vial access adapter-vial assembly of claim 31 wherein the protective container further comprises a horizontal bottom wall, two side walls and a top wall openable with a hinge.

Claim 33 (New): The vial access adapter-vial assembly of claim 31 wherein said protective container is made of lead.

Claim 34 (New): The vial access adapter-vial assembly of claim 31 of wherein said protective container is made of an alloy comprising lead.